

UTILIZATION OF TOTAL STATIONS IN THE WORK OF DETACHMENT A PROPERTY

MILUȚ M., CĂLINA JENICA, CĂLINA A., BĂDESCU G.

University of Craiova, Faculty of Agriculture

Keywords: detachment of property works, total station, support network,

ABSTRACT

The detachment of a property is common in recent years, primarily due to the modification of the urban plans, by the extension of the urban areas to the detriment of the arable lands. Thus, there is the possibility of lotizing larger terrains of the order of thousands of square

meters in several plots of different sizes, generally 250-600 m², which are then sold for the construction of new dwellings. In the paper is presented as a case study such a detachment of a property, using for field measurements the total station.

INTRODUCTION

In the cadastre law (republished), the cadastre and the land book form a unitary and compulsory system of technical, economic and legal evidence, of national importance, of all the buildings throughout the country. (Article 1. - (1)). The technical part of the cadastre is aimed at the following works: - the establishment and marking on the land through cadastral landmarks of the boundaries of the administrative territories (communes, towns, municipalities), - identification and marking through the boundaries of the urban areas - the demarcation of the immovable property within an administrative territory, the plots within them according to the category of use and their owners, - the field measurements and the processing of the cadastral data, - the drawing up or rebuilding of the cadastral plans, - the

cadastral numbering of the cadastral sectors and real estate on an administrative territory - Calculation of the plots of land, real estate, cadastral sectors and the entire administrative, communal, municipal or municipal administrative territory - Preparation of cadastral registers and summary situations - Maintenance of cadastre (Miluț M., et al., 2018). One of the main works in the cadastre of recent years relates to the dismantling (detachment) of a real estate, ie the possibility of lotizing larger terrains of the order of thousands of square meters in several plots of different sizes, generally 250-600 square meters which are then alienated the construction of new housing. In the paper is presented as a case study such a dismantling of a building, using for field measurements the total station.

MATERIAL AND METHOD

The purpose of the paper is to present the way of drawing up the cadastral documentation necessary for the dismemberment of a building inscribed in the Land Book. As a case study, the building that is the object of the documentation is located in the outskirts

of the commune Șimnicu de Sus, village Albești, Dolj County. After the registration of the land in the land book on the basis of the ownership documents it was dismembered after the owner's request in 17 lots according to the norms in force. The dismemberment was done taking into

account certain criteria: - observing the surface of the lots; compliance with the Area Town Planning (PUZ) rules issued by the Zonal Urbanism Office. For the

implementation of specific cadastral documentation, Leica TS 06 total station measurements were used.



Figure 1 - TOTAL STATION LEICA TS06

RESULTS AND DISCUSSIONS

The following operations were carried out in order to carry out the dismantling documentation: the recognition of the boundaries of the land; identification of access roads; identification of electrical networks; verifying the visibility of targeting the old topographical points in the area.

As a result of the verifications carried out, it was found that in the area

there are old triangulation points, namely: Albești Pyramid, T 106 C.U.M, T 11 Beer Factory, which we connected to perform closed planimetric routing. The points on the outline of the 17 lots were lifted with the help of the total station and were materialized on the ground with the help of some metal trunks and wooden trunks.



Figure 2 Frame field in the area

The points on the contour plots were drawn in the presence of the owner, prior to the detachment documentation to be sent to OCPI.

As a surveying methods, closed planimetric traverse combined with rectangular coordinate method for picking up the details.

Table 1

Old points used

Name point	Coordinates	
	X	Y
Albești Pyramid	317599.4360	402955.8320
T 106 (C.U.M)	317660.8040	401393.5155
T11 (Brewery)	317391.3530	401122.3670

After processing the data taken from the field, the coordinates of the traverse points were obtained, from which the

detail points were targeted and calculated.

Table 2

New points determined

Name point	Coordinates	
	X	Y
S1	318068.84	403304.03
S2	318045.88	403070.04
S3	318051.2	403125.94
S4	318055.02	403153.65
S5	318034.90	403158.47
S6	318057.68	403200.43
S7	318061.82	403240.36

It was then passed to the calculation of the surfaces. The total area of 10440 sqm was dismantled at the request of the owner in 17 lots as follows: Lot 1 - the arable land use category of 1600 sqm; lots ranging from 2 to 9 in an

area of 400 sqm; Lot 10, the arable land use category of 518 sqm; Lot 11 - arable land category of 517 sqm; Lot 12 - arable land category of 553 sqm; Lot 13 - the category of arable land in the area of 568 sqm; Lot 14 - arable land category of 500

sqm; Lot 15 - arable land category of 581 sqm; Lot 16 - Arable land category of 1000 sqm; Lot 17 - the category of arable land use of 1403 sqm serving as an access alley.

Using the coordinates resulting from the measurements, the building plan and delimitation of the building at the 1:1000 scale was prepared with the help of the AutoCad 2002 program. Besides, the plans with the dismantling proposal for each lot were executed.

Documentation of dismantling included: schedule; proof of payment of the tariff; reception request; self-declaration on the identification of the

measured property; copies of identity documents; copy of the land book; urban planning certificate; coordinate inventory of station points and radiated points; analytical calculation of surfaces; technical memo; site layout and delimitation of the derelict building (old PAD); site layout and delimitation plan with bend proposal; site and delimitation plans for each building resulting from unpacking; plan to fit into the area on a convenient scale so that the building can be located; the .cpxml file (ANCPI Regulation).

CONCLUSIONS

The dismantling of some buildings is common in recent years, primarily due to the modification of the urban plans, by the extension of the urban areas to the detriment of the arable lands. Dismantling documentation is executed within a convenient timeframe, using modern

computing and editing techniques. This timeframe for cadastral work is considerably decreasing by using modern equipment such as total station stations and global positioning systems for fieldwork.

BIBLIOGRAPHY

1. **Băbucă N. I., Călina A., Miluț M.**, 2013, *Topographic works for preparation of maps by mapping and surveying, lots plans for the possession of surface 103,68 hectares, land with forest located in the municipality Criciova, Timis County*, Annals of the University of Craiova, series Agriculture, Montanology, Cadastre, vol XLIII/2, pag. 23-26, ISSN 1841-8317;
2. **Călina A., Călina Jenica, Mustață I., Miluț M., Croitoru A., Buzatu C.**, 2010, *Topografie generală și inginerească*, Sitech publishing house, Craiova;
3. **Călina A., Călina Jenica, Miluț M.**, 2013, *Study on topographic survey of a forest area using combined technology GPS and total station*, Annals of the University of Craiova, Vol XLIII/2, pages 45-53;
5. **Călina Jenica, Călina A., Miluț M., Băbucă N. I.**, 2014, *Surveying data processing for extension, land registration*

and construction improvement, Annals of the University of Craiova, series Agriculture, Montanology, Cadastre /XLIV-2, pag. 46-49;

6. **Miluț M., Călina Jenica, Călina A.**, 2018, *Cadastru – Note de curs*, Universitaria publishing house, Craiova, ISBN: 978-606-14-1375-1;

7. **Miluț M., Călina Jenica, Croitoru A.**, 2015, *The evolution of surfaces in Romania, by category of use during 2000-2012*, Annals of the University of Craiova, Series Agriculture, Montanology, Cadastre, Vol. XLV/2, Pag. 114-119, ISSN 1841-83172066-950X(e);

8. **X X X** Legea cadastrului și publicității imobiliare (Legea 7/1996) – republicată;

9. **X X X** Ordinul 700/2014 privind aprobarea Regulamentului de avizare, recepție și înscriere în evidențele de cadastru și carte funciară.